APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,112	11/26/2003	Christopher S. Campbell	ARC920030088US1	1350

7590   07/17/2009

Frederick W. Gibb, III
McGinn & Gibb, PLLC
Suite 304
2568-A Riva Road
Annapolis, MD 21401

EXAMINER
COLAN, GIOVANNA B

ART UNIT	PAPER NUMBER
2162	

MAIL DATE	DELIVERY MODE
07/17/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHRISTOPHER S. CAMPBELL, TOMAS J. COSTELLO,
MAHESH V. JOSHI, SHIVAKUMAR VAITHYANATHAN, and
HUAIYU ZHU

Appeal 2008-003641
Application 10/723,112
Technology Center 2100

Decided[1]: July 17, 2009

Before LANCE LEONARD BARRY, HOWARD B. BLANKENSHIP, and
STEPHEN C. SIU, *Administrative Patent Judges.*

SIU, *Administrative Patent Judge.*

DECISION ON APPEAL

---

[1] The two month time period for filing an appeal or commencing a civil
action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date
shown on this page of the decision. The time period does not run from the
Mail Date (paper delivery) or Notification Date (electronic delivery).

<div style="text-align:center">STATEMENT OF THE CASE</div>

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-57. We have jurisdiction under 35 U.S.C. § 6(b).

<div style="text-align:center">*The Invention*</div>

The disclosed invention relates generally to retrieving, organizing, and indexing documents (Spec. 1) by searching a database based on a query and retrieving documents from the database matching the query (Spec. 7).

Independent claim 1 is illustrative:

> 1.   A system for extracting information comprising:
>
> a query input;
>
> a database of documents;
>
> a plurality of classifiers arranged in a hierarchical cascade of classifier layers, wherein each classifier comprises a set of weighted training data points comprising feature vectors representing any portion of a document, wherein each said feature vector is arranged only as a vector of counts for all features in a data point, and wherein said classifiers are operable to retrieve documents from said database based solely on whether said documents are relevant to said query input; and
>
> a terminal classifier weighing an output from said cascade according to a rate of success of query terms being matched by each layer of said cascade.

The References

The Examiner relies upon the following references as evidence in support of the rejection:

Palmer	US 6,990,628 B1	Jan. 24, 2006 (filed Jan. 14, 1999)
Woo	US 7,039,641 B2	May 02, 2006 (filed Feb. 22, 2001)

The Rejection

The Examiner rejects claims 1-57 under 35 U.S.C. § 103(a) as being unpatentable over Palmer and Woo.

ISSUE #1

Appellants assert that "Palmer does <u>not</u> disclose . . . <u>inputting a query, searching a database of documents based on the query, and retrieving documents from the database based solely on whether the documents are relevant to the query</u>, as recited in independent claims 1, 20, and 39" (Reply Br. 6).

Did Appellants demonstrate that the Examiner erred in finding that Palmer or Woo discloses or suggests retrieving documents from a database based on relevance to a query input?

ISSUE #2

Appellants assert that "Woo does <u>not</u> disclose a method or system for . . . <u>retrieving documents</u> from the database . . . <u>using a plurality of classifiers</u>, as recited in claims 1, 20, and 39" (Reply Br. 8).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo disclose or suggest retrieving documents using a plurality of classifiers?

ISSUE #3

Appellants assert that it would not have been obvious to one of ordinary skill in the art to combine Palmer and Woo because "[t]he work of Woo is in a completely different field . . . from either the Appellants' invention or Palmer's invention" (App. Br. 25), that "<u>Palmer and Woo are non-analogous</u>" (App. Br. 28), that "<u>Woo in combination with Palmer would result in an inoperable device/method producing conflicting results</u>" (App. Br. 26), and that "the reason given to support the proposed combination is improper" (App. Br. 29).

Did Appellants demonstrate that the Examiner erred in finding that it would have been obvious to one of ordinary skill in the art to have combined the Palmer and Woo disclosures?

ISSUE #4

Appellants assert that "Woo only deals with 'input tuples' and 'output tuples', which . . . are binary numbers" (App. Br. 32) but fails to disclose or suggest an "input distribution" or "output distribution" as recited in claims 2, 3, 21, 22, 40, and 41.

Did Appellants demonstrate that the Examiner erred in finding that
Palmer and Woo disclose or suggest an input and output distribution of data
points?

ISSUE #5

Appellants assert that "there is nothing in the cited portion of Woo
remotely suggesting the Appellants' claimed invention pertaining to weights
of training data points of a first classifier layer being uniform" (App. Br. 34)
as recited in claims 3, 22, and 41.

Did Appellants demonstrate that the Examiner erred in finding that
Palmer and Woo disclose or suggest uniform weights of training data points?

ISSUE #6

Appellants assert that "each classifier is not trained according to the
query input in Woo because one could select certain classifiers as not being
'local' and thereby not being trained" (App. Br. 35).

Did Appellants demonstrate that the Examiner erred in finding that
Palmer and Woo disclose or suggest that classifiers are trained according to
a query input?

ISSUE #7

The Examiner finds that Woo discloses that a "training set comprises
a small set of electronic documents that are determined to closely match
each category of a taxonomy'" (Ans. 7).

Appellants assert that "this language never appears in the cited section of Woo" (App. Br. 36).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo disclose or suggest that the query input is based on a minimum number of example documents?

ISSUE #8

Appellants assert that Palmer fails to disclose or suggest "that the feature vectors represent any portion of the document" (App. Br. 37) and that Woo "does not even refer to feature vectors" (*id.*).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo disclose or suggest feature vectors representing any portion of a document?

ISSUE #9

Appellants assert that while Palmer "suggests that feature vectors are constructed for each document" (App. Br. 37), Palmer does not, according to Appellants, disclose or suggest "what the characteristics are of the document" (*id.*).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo discloses or suggests a file format capable of being represented by feature vectors?

ISSUE #10

Appellants assert that Palmer "does not teach or suggest that the document <u>itself</u> includes images, audio components, or other multimedia elements" (App. Br. 38).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo disclose or suggest documents comprising any of text files, images, web pages, video files, or audio files?

ISSUE #11

Appellants assert that Palmer and Woo fail to teach or suggest the "claimed invention defined by claims 9, 28, and 47" (App. Br. 39).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo disclose or suggest the "claimed invention defined by claims 9, 28, and 47"?

ISSUE #12

Appellants assert that "[t]here is nothing [in Woo] which refers to or even suggests an expectation maximization methodology or its reasonable equivalence, let alone using an expectation maximization methodology to train each layer of a cascade of classifiers or filters" (App. Br. 40).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo disclose or suggest an expectation maximization methodology and training a layer of a cascade of classifiers by an expectation maximization methodology?

ISSUE #13

Appellants assert that "the cited portions of Palmer including Fig. 4 cannot teach the entirety of the Appellants' claims 11, 30, and 49" (App. Br. 41) because "[i]t appears that the Examiner is not reading the claims in their totality" (*id.*).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo disclose or suggest that each layer of a cascade of classifiers is trained by successive iterations of said expectation maximization methodology until a convergence of parameter values associated with said output distribution of each layer occurs in succession?

ISSUE #14

Appellants assert that "there is no teaching in Palmer of the Appellants' claimed elements provided in claims 12, 31, and 50" (App. Br. 41), "claimed elements provided in claims 13, 32, and 51" (App. Br. 42), or "claimed elements provided in claims 14, 33, and 52" (App. Br. 43).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo disclose or suggest the features recited in claims 12-14, 31-33, and 50-52?

ISSUE #15

With respect to claims 15-18, 34-37, and 53-56, Appellants assert that "there is nothing in the . . . language of Palmer that teaches or reasonably

suggests that each classifier or filter layer generates the relevancy score, which the Appellants' provide" (App. Br. 44, 45, and 46).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo disclose or suggest each classifier layer generating a relevancy score?

ISSUE #16

Appellants assert that "nothing in the . . . language of Palmer refers to the one-half million most discriminative feature or word phrases being located proximate to entities of interest in the document, which the Appellants' claims provide" (App. Br. 47).

Did Appellants demonstrate that the Examiner erred in finding that Palmer and Woo disclose or suggest words located proximate to entities of interest in a document?

FINDINGS OF FACT

The following Findings of Facts (FF) are shown by a preponderance of the evidence.

1. Palmer discloses that "[w]hen a search query is entered, the search engine locates relevant documents and displays a set of search results that satisfy the query" (col. 1, ll. 31-33) and that "most search engines now use relevance criteria when selecting electronic documents to be placed in the search results" (col. 1, ll. 38-40) in which "the search engine attempts to determine which of the

    documents in its index are most relevant to the search query" (col. 1, ll. 40-42).

2. Palmer discloses "a method and system that measures similarity of documents" (col. 2, ll. 57-58) in which a "measure of document similarity may be used to classify unclassified documents into category nodes of a taxonomy structure" (col. 2, ll. 64-66).

3. Woo discloses a "method and system for classifying packets through the user of filters" (Abstract) including decomposing "a large filter table into small filter buckets of a fixed maximum size" (col. 2, ll. 64-65) and processing "limited-size filter buckets to find a match" (col. 2, ll. 66-67).

4. Palmer discloses that "[t]he Web has been estimated to contain at least 4560 million pages" (col. 1, ll. 21-22) and that "the number of documents available through the Web is . . . large" (col. 1, ll. 25-26). Palmer also discloses that "[w]eb documents . . . are part of an interconnected system that is used . . . by millions of people" (col. 4, ll. 37-40).

5. Woo discloses that a "match frequency of a particular filter" is "typically derived from the distribution of the input tuple t or filter usage statistics" (col. 5, ll. 55-57) and an "[o]utput stage . . . which retrieves action data . . . corresponding to the match" (col. 15, ll. 20-21).

PRINCIPLES OF LAW

Obviousness

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966).

"The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007).

"A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

ANALYSIS

Issue #1

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 1-57 over Palmer and Woo with respect to issue #1 on the basis of claim 1 alone. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants assert that Palmer fails to disclose or suggest that "documents are retrieved based <u>solely</u> on whether they are relevant to the

query input" (App. Br. 22). We disagree. As set forth above, Palmer
discloses a search engine that locates relevant documents based on relevance
to a search query (FF 1). In view of Palmer's explicit disclosure of
retrieving documents based on whether the documents are relevant to a
query, we cannot agree with Appellants' contention that Palmer supposedly
fails to disclose such a feature.

Appellants argue that Palmer discloses a similarity value that "is used
for classification purposes" (App. Br. 22) but that "in the Appellants'
claimed invention, no such classification takes place" (*id*.). Even assuming
Appellants' contention to be true that Palmer discloses a similarity value,
Appellants have not demonstrated that Palmer also fails to disclose or
suggest retrieving documents based on relevance to a query input. On the
contrary, as outlined above, Palmer does in fact disclose or suggest such a
feature.

For at least the aforementioned reasons, we conclude that Appellants
have not sustained the requisite burden on appeal in providing arguments or
evidence persuasive of error in the Examiner's rejection of claim 1, and of
claims 2-57, which fall therewith with respect to issue #1.

Issue #2

Based on Appellants' arguments in the Appeal Brief, we will decide
the appeal of the Examiner's § 103 rejection of claims 1-57 over Palmer and
Woo with respect to issue #2 on the basis of claim 1 alone. *See* 37 C.F.R. §
41.37(c)(1)(vii).

The Examiner finds that Woo discloses "classifiers arranged in a hierarchical cascade of classifier layers (Fig. 1, item 20, Col. 17, lines 44-49, Woo)" (Ans. 4-5) because "the filters [of Woo] correspond to the classifiers as claimed" (*id*. at 5). In response, Appellants argue that "a packet is not a document" (Reply Br. 8). We find no relevance between Appellants' argument that a "packet is not a document" and whether the filters of Woo are equivalent to the classifiers as claimed. Therefore, we are unpersuaded by Appellants' argument of Examiner error.

Appellants also argue that "if classifiers [as claimed] correspond to filters [of Woo], . . . what corresponds to the documents being retrieved by these classifying filters?" (Reply Br. 8). We also find no relevance in Appellants' query since the Examiner finds that that Palmer discloses "searching a database of documents based on said query (Col. 7, lines 28-32, Palmer)" (Ans. 4) and Appellants have failed to assert, much less argue, how this finding negates the Examiner's position that the filters of Woo are equivalent to the plurality of classifiers as claimed.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 1, and of claims 2-57, which fall therewith with respect to issue #2.

Issue #3

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 1-57 over Palmer and

Woo with respect to issue #3 on the basis of claim 1 alone. *See* 37 C.F.R. §
41.37(c)(1)(vii).

As set forth above, Palmer discloses locating and identifying
documents that are relevant to a search query (FF 1) and also discloses
classifying documents and data based on similarity of the documents (FF 2).
Woo also discloses classifying data that includes finding a match between
identified data (FF 3). We agree with the Examiner that it would have been
obvious to one of ordinary skill in the art to have combined the known
elements of classifying data based on data similarity (Palmer) and
classifying data by finding a match between identified data (Woo) to achieve
the predictable and expected result of successful data classification since
"[t]he combination of familiar elements according to known methods is
likely to be obvious when it does no more than yield predictable results."
KSR, 550 U.S. at 416.

Appellants argue that it would not have been obvious to one of
ordinary skill in the art to combine the method of classifying data based on
data similarity (Palmer) with a method of classifying data by finding a match
between data (Woo) to achieve a general method or system for weighing
data according to "rate of success of query terms being matched" (Claims
Appx. 49) because "Woo is in a completely different field . . . for either the
Appellants' invention or Palmer's invention" (App. Br. 25). Palmer, Woo,
and the claimed invention each pertain to matching and classifying data. As
such, we cannot agree with Appellants' contention that Palmer, Woo, and
the claimed invention are supposedly in "completely different field[s]."

Rather, Palmer, Woo, and the claimed invention are in the similar field of data identification and/or classification via matching of data.

Even assuming Appellants' contention to be true that Palmer, Woo, and the claimed invention are in "completely different field[s]," Appellants have not demonstrated that Palmer and Woo are not reasonably pertinent to the claimed invention. For example, one of ordinary skill in the art faced with the task of identifying, matching or classifying data would look to the solutions of any of Palmer or Woo, either of which discloses methods and systems for accomplishing the task. Thus, we find that, contrary to Appellants' contention, the cited references are in an analogous art. "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d at 659.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 1, and of claims 2-57, which fall therewith with respect to issue #3.

Issue #4

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 2, 3, 21, 22, 40, and

41 over Palmer and Woo with respect to issue #4 on the basis of claim 2 alone.[2] *See* 37 C.F.R. § 41.37(c)(1)(vii).

As set forth above, Woo discloses a distribution of an input tuple and an "output stage" (FF 5). Hence, Woo discloses a distribution of values. Even assuming Appellants argument to be true that Woo discloses "input tuples" and "output tuples" that are "binary numbers" (App. Br. 32), Appellants have not demonstrated a distinction between Woo's distribution of tuples and the claimed input and output "distributions."

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 2, or of claims 3, 21, 22, 40, and 41, which fall therewith with respect to issue #4.

Issue #5

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 3, 22, and 41 over Palmer and Woo with respect to issue #5 on the basis of claim 3 alone. *See* 37 C.F.R. § 41.37(c)(1)(vii).

The Examiner finds that Woo discloses that a "weight represents the relative match frequency of a particular filter" (Ans. 21) and that "the weight is uniform" (*id.*) because "the weight . . . represents the match frequency of a

---

[2] Appellants provide arguments for claims 2, 21, and 40 under a separate heading as for claims 3, 22, and 41 but provide the same arguments for each group with respect to this issue.

particular filter" (*id.*) where "the particular filter corresponds to the first classifier layer claimed" (*id.*). The Appellants, while arguing that "it is unclear how the Office Action is interpreting Woo in this regard" (App. Br. 34), fail to provide specific arguments demonstrating Examiner error.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 3, or of claims 22 and 41, which fall therewith with respect to issue #5.

Issue #6

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 4, 23, and 42 over Palmer and Woo with respect to issue #6 on the basis of claim 4 alone. *See* 37 C.F.R. § 41.37(c)(1)(vii).

The Examiner finds that Woo discloses "matching the filters to the input packet" (Ans. 22) at "Col. 11, lines 46-48" (*id.*) and equates this disclosure with the claimed feature of "each classifier [being] trained according to the input" (*id.*). Appellants cite Woo "in Col. 11, line 62 through Col. 12, line 24" (App. Br. 34) and argue that the passage in Woo discloses "selectively determining the number of 'lookaheads' to capture a certain level of 'localness'" (App. Br. 35), which Appellants argue is "evidence that each classifier is not trained according to the query input in Woo" (*id.*). We do not follow Appellants' reasoning because Appellants have not demonstrated, nor do we find, a correlation between a level of

"localness" or a number of "lookaheads" and whether a classifier is trained to a query input or not. In addition, even assuming that a level of "localness" or number of "lookaheads" is indeed related to training (or not training) a classifier according to an input, Appellants have not provided arguments demonstrating that Woo's "matching the filters to the input packet," as stated by the Examiner, is distinct from classifiers being trained according to a query input as claimed.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 4, or of claims 23 and 42, which fall therewith with respect to issue #6.

Issue #7

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 5, 24, and 43 over Palmer and Woo with respect to issue #7 on the basis of claim 5 alone. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants argue that while "[t]he Office Action suggest that Col. 13, lines 62-67 [of] Woo teach[es] a 'small set of electronic documents' . . . [h]owever, this language never appears in the cited section of Woo, and in fact, a global search of Woo reveals no such language appearing anywhere in Woo" (App. Br. 36). Appellants also argue that "even a combination of Palmer with Woo fails to teach the . . . claims" (*id.*).

While we agree with Appellants that Woo does not disclose "a small set of electronic documents" at Col. 13, ll. 62-67, we find that Palmer discloses this feature at col. 13, ll. 62-63. Therefore, we are unpersuaded by Appellants' argument that "even a combination of Palmer with Woo fails" to disclose this feature.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 5, or of claims 24 and 43, which fall therewith with respect to issue #7.

Issue #8

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 6, 25, and 44 over Palmer and Woo with respect to issue #8 on the basis of claim 6 alone. *See* 37 C.F.R. § 41.37(c)(1)(vii).

The Examiner finds that Palmer discloses that each "component of the feature vectors is the normalized value of the occurrence frequency of a particular feature [of the] document" (col. 14, ll. 34-36) which the Examiner finds to be suggestive of the feature vectors representing any portion of the document (Ans. 23). Appellants argue that Palmer discloses that "vectors are constructed for each document" (App. Br. 37) but does not disclose or suggest "that the feature vectors represent any portion of the document" (*id.*). However, Appellants provide no arguments demonstrating that normalizing each component of a feature vector to a particular feature of the

document is not suggestive of the feature vectors representing any portion of the document. Indeed, the concepts appear to be the same.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 6, or of claims 25 and 44, which fall therewith with respect to issue #8.

<div align="center">Issue #9</div>

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 7, 26, and 45 over Palmer and Woo with respect to issue #9 on the basis of claim 7 alone. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants argue that Palmer discloses that "vectors are constructed for each document" (App. Br. 37) but does not disclose or suggest "what the characteristics are of the document" (*id.*). The Examiner finds that "the features upon which applicant relies . . . are not recited in the reject claims 7, 25, and 45" (Ans. 24). We agree. Because claim 7 does not recite "what the characteristics are of the document," even assuming Appellants argument to be true that Palmer fails to disclose or suggest "what the characteristics are of the document," we find Appellants' argument immaterial to the Examiner's rejection.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or

evidence persuasive of error in the Examiner's rejection of claim 7, or of
claims 26 and 45, which fall therewith with respect to issue #9.

Issue #10

Based on Appellants' arguments in the Appeal Brief, we will decide
the appeal of the Examiner's § 103 rejection of claims 8, 27, and 46 over
Palmer and Woo with respect to issue #10 on the basis of claim 8 alone. *See*
37 C.F.R. § 41.37(c)(1)(vii).

As set forth above, Palmer discloses documents that include web
pages (FF 4). Claim 8 recites documents to comprise "any of text files,
images, web pages, video files, and audio files" (Claims Appx. 50). In view
of Palmer's explicit disclosure of documents that include web pages, we find
that Palmer discloses this feature recited in claim 8.

Appellants argue that Palmer fails to disclose "that the document <u>itself</u>
includes images, audio components, or other multimedia elements" (App.
Br. 38). However, claim 8 merely requires that the document comprise web
pages (among other possibilities), which Palmer explicitly discloses. Thus,
we are unpersuaded by Appellants' argument.

For at least the aforementioned reasons, we conclude that Appellants
have not sustained the requisite burden on appeal in providing arguments or
evidence persuasive of error in the Examiner's rejection of claim 8, or of
claims 27 and 46, which fall therewith with respect to issue #10.

Issue #11

Based on Appellants' arguments in the Appeal Brief, we will decide
the appeal of the Examiner's § 103 rejection of claims 9, 28, and 47 over
Palmer and Woo with respect to issue #11 on the basis of claim 9 alone. *See*
37 C.F.R. § 41.37(c)(1)(vii).

The Examiner finds that the combination of Palmer and Woo
discloses or suggests features recited in claim 9 (Ans. 9). Appellants, while
arguing that "the Examiner is not reading the claims in their totality" (App.
Br. 39), fail to provide arguments demonstrating specific errors in the
Examiner's reasoning. In view of this lack of showing of Examiner error,
we are unpersuaded by Appellants' argument.

For at least the aforementioned reasons, we conclude that Appellants
have not sustained the requisite burden on appeal in providing arguments or
evidence persuasive of error in the Examiner's rejection of claim 9, or of
claims 28 and 47, which fall therewith with respect to issue #11.

Issue #12

Based on Appellants' arguments in the Appeal Brief, we will decide
the appeal of the Examiner's § 103 rejection of claims 10, 29, and 48 over
Palmer and Woo with respect to issue #12 on the basis of claim 10 alone.
See 37 C.F.R. § 41.37(c)(1)(vii).

The Examiner finds that Woo at column 9, lines 16-21 discloses that a
choice is made to "minimize duplication and maximize 'balancedness';

Wherein the distribution of input traffic corresponds to the join[t] distribution claimed" (Ans. 27) and that an "'expectation maximization methodology' recited in claims 9, 28, and 47" (*id.*) was well-known in the art as evidenced by "the background of the Specification of Appellant's disclosure" (*id.*) that discloses that "using the popular expectation maximization (EM) methodology" was performed "extensively" (*id.*).

While Appellants argue generally that "nothing in th[e] language [of Woo at col. 15, ll. 15-19] refers to or even suggests an expectation maximization methodology" (App. Br. 40), Appellants provide no arguments demonstrating that Woo at column 9, lines 16-21 (cited by the Examiner) fails to disclose the disputed claimed features. Nor do Appellants provide arguments refuting or addressing the Examiner's finding that expectation maximization methodology was known to those of ordinary skill in the art and practiced "extensively." In the absence of such a showing, we are unpersuaded by Appellants' arguments.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 10, or of claims 29 and 48, which fall therewith with respect to issue #12.

Issue #13

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 11, 30, and 49 over

23

Palmer and Woo with respect to issue #13 on the basis of claim 11 alone.
See 37 C.F.R. § 41.37(c)(1)(vii).

Appellants argue that "Palmer does not teach a cascade of classifier layers" (App. Br. 41) (emphasis omitted). However, the Examiner relies on Woo to provide this disclosure. Thus, we find Appellants' argument that Palmer supposedly fails to provide this disclosure unpersuasive.

Despite the Examiner's showing that the combination of Palmer and Woo discloses or suggests claim 11, Appellants merely reproduce text from the Palmer reference and argue generally that Palmer "cannot teach the entirety of the Appellants' claims 11, 30, and 49" (App. Br. 41). However, Appellants fail to provide arguments demonstrating specific differences between Palmer and the features recited in claim 11. In the absence of such a showing, we are unpersuaded by Appellants' arguments.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 11, or of claims 30 and 49, which fall therewith with respect to issue #13.

Issue #14

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 12-14, 31-33, and 50-

52 over Palmer and Woo with respect to issue #14 on the basis of claim 12
alone.[3] *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants argue that Palmer discloses a "counter value" and "testing"
(App. Br. 41, 42) but that "there is no such testing in the Appellants' claims,
nor is there a counter variable" (App. Br. 41, 43). Even assuming
Appellants' argument to be true that claim 12 does not require testing or a
counter variable, we are nevertheless unpersuaded by Appellants' argument
because Appellants' argument does not refute the Examiner's finding that
Palmer discloses the limitations that are recited in claim 12.

The Examiner finds that Palmer discloses "categories [that]
correspond to classifiers claimed and . . . the training iterations correspond to
the iterations claimed" (Ans. 29). The Examiner also finds that "the filters
[of Woo] correspond to the classifiers claimed; and minimize duplication
and maximize 'balancedness' correspond to the expectation maximization
methodology claimed" (*id.*). Appellants argue that Palmer "has nothing to
do with an expectation maximum methodology" (App. Br. 42, 43) but
provide no reasons or arguments supporting this conclusion. In any event,
according to the Examiner, Woo discloses the expectation maximum
methodology. Therefore, we do not find persuasive Appellants' argument
that Palmer supposedly fails to disclose this feature.

---

[3] Appellants argue claims 12, 31, 50 under a separate heading as claims 13,
32, and 51 and of claims 14, 33, and 52, but rely on the same arguments for
each group.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 12, or of claims 13, 14, 31-33, and 50-52, which fall therewith with respect to issue #14.

Issue #15

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 15-18, 34-37, and 53-56 over Palmer and Woo with respect to issue #15 on the basis of claim 15 alone.[4] *See* 37 C.F.R. § 41.37(c)(1)(vii).

The Examiner finds that the combination of Palmer (at col. 4, ll. 11-16) and Woo (at col. 16, ll. 13-18 and Abstract) discloses generating a confidence score from a classifier. The Examiner further equates the "confidence score" of Palmer and Woo with the claimed "relevancy score" (Ans. 33). Appellants merely argue that "there is nothing in the . . . language of Palmer that teaches or reasonably suggests that each classifier or filter layer generates the relevancy score" (App. Br. 44) but fail to demonstrate, much less assert, any specific differences between the disclosure of Palmer (e.g., confidence score) and the disputed claimed

_____

[4] Appellants argue claims 15, 34, and 53 under a separate heading as claims 16-18, 35-37, and 54-56, but rely on the same arguments for each group.

features. In the absence of such a showing, we are unpersuaded by Appellants' arguments.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 15, or of claims 16-18, 34-37, and 53-56, which fall therewith with respect to issue #15.

<center>Issue #16</center>

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal of the Examiner's § 103 rejection of claims 19, 38, and 57 over Palmer and Woo with respect to issue #16 on the basis of claim 19 alone. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Palmer discloses "features that most strongly discriminate documents in one category from documents in another category are selected" (Palmer, col. 14, ll. 27-29) such that the "most discriminative features or word phrases may be chosen (col. 14, ll. 30-31). The Examiner finds that "the step of selecting documents in one category corresponds to the step of locating proximate to entities" of interest as recited in claim 19 (Ans. 35). We turn to Appellants' arguments to determine if the Examiner erred in this determination.

Appellants merely argue that "nothing in the . . . language of Palmer refers to the one-half million most discriminative feature or word phrases

<center>27</center>

being located proximate to entities of interest in the document" (App. Br. 47). Notably, Appellants merely assert that Palmer fails to disclose the recited claim limitations but provide no arguments pointing out specific differences between Palmer and the disputed claim features. In the absence of such a showing, we are unpersuaded by Appellants' arguments.

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 19, or of claims 38 and 57, which fall therewith with respect to issue #16.

CONCLUSION OF LAW

Based on the findings of facts and analysis above, we conclude that Appellants have failed to demonstrate that the Examiner erred in:

1. finding that Palmer or Woo discloses or suggests retrieving documents from a database based on relevance to a query input (issue #1),

2. finding that Palmer and Woo disclose or suggest retrieving documents using a plurality of classifiers (issue #2),

3. finding that it would have been obvious to one of ordinary skill in the art to have combined the Palmer and Woo disclosures (issue #3),

4. finding that Palmer and Woo disclose or suggest an input and output distribution of data points (issue #4),

5. finding that Palmer and Woo disclose or suggest uniform weights of training data points (issue #5),

6. Palmer and Woo disclose or suggest that classifiers are trained according to a query input (issue #6),

7. finding that Palmer and Woo disclose or suggest that the query input is based on a minimum number of example documents (issue #7),

8. finding that Palmer and Woo disclose or suggest feature vectors representing any portion of a document (issue #8),

9. finding that Palmer and Woo disclose or suggest a file format capable of being represented by feature vectors (issue #9),

10. finding that Palmer and Woo disclose or suggest documents comprising any of text files, images, web pages, video files, or audio files (issue #10),

11 finding that Palmer and Woo disclose or suggest the "claimed invention defined by claims 9, 28, and 47" (issue #11),

12. finding that Palmer and Woo disclose or suggest an expectation maximization methodology and training a layer of a cascade of classifiers by an expectation maximization methodology (issue #12),

13. finding that Palmer and Woo disclose or suggest that each layer of a cascade of classifiers is trained by successive iterations of said expectation maximization methodology until a convergence of parameter values associated with said output distribution of each layer occurs in succession (issue #13),

14. finding that Palmer and Woo disclose or suggest the features recited in claims 12-14, 31-33, and 50-52 (issue #14),

15.   finding that Palmer and Woo disclose or suggest each classifier layer generating a relevancy score (issue #15), and

16.   finding that Palmer and Woo disclose or suggest words located proximate to entities of interest in a document (issue #16).

DECISION

We affirm the Examiner's decision rejecting claims 1-57 under 35 U.S.C. § 103.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

msc

FREDERICK W. GIBB, III
MCGINN & GIBB, PLLC
SUITE 304
2568-A RIVA ROAD
ANNAPOLIS, MD 21401